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# A plan for adjusting cash rent to changes in the prices of farm products

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# A Plan for Adjusting Cash Rent To Changes In the Prices of Farm Products

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AMES, IOWA

## CONTENTS

Summary .....	191
Description of the plan for adjusting cash rent to changes in the prices of farm products .....	194
Farm products used in the plan for adjusting cash rent.....	194
Prices used as a basis for adjusting cash rent.....	198
Method of computing the average index number for the lease-year.....	198
Method used in making the rent proportional to farm prices.....	200
Allowance made for variation in grade of farms.....	201
The flexible rent plan as applied to pasture and hayland.....	204
How the flexible rent plan is used for adjusting the cash rental for a past year or for the current year.....	205
The sliding-scale lease as used in connection with long-term leases.....	206
Theory upon which the sliding-scale rent plan is based.....	207
Trend of the prices of Iowa farm products, 1910-1932.....	208
Trend of cash rents in Iowa, 1910-1932.....	209
Comparison of the trend of cash rents with the prices of farm products .....	209
Advantages of a plan providing for a rental based on the prices of farm products .....	211
Rent varies directly in proportion to the prices of farm products.....	211
Livestock production encouraged .....	212
Landlords not concerned with the marketing of a share of the crop.....	212
Analysis of disadvantages of the sliding-scale plan.....	213
Complexity of the plan.....	213
Taking account of variation in yields.....	214
Basing rent on the specific crops grown on a given farm.....	216
Basing the rent only on the prices received during the latter part of the lease-year .....	216
Conclusion .....	218

## INDEX TO TABLES

Table I. Weights given to the farm products used in computing annual index numbers .....	198
Table II. Annual prices of each of the 10 major farm products and yearly index numbers, 1910 to September, 1932.....	199
Table III. Monthly index numbers; January, 1925, to September, 1932.....	200
Table IV. Rent schedules for various grades of farms.....	201
Table V. Average cash rent, comparison with state average, and appropriate rent schedule for each county.....	203
Table VI. The cash rent that would have been paid from 1910 to 1931 had the rent been based on prices of farm products.....	207
Table VII. Index numbers of prices of Iowa farm products and average cash rentals paid for improved farm land, 1910-1932.....	208

## INDEX TO FIGURES

Fig. 1. Trend of cash rent compared with the trend of prices of farm products, 1910-1932 .....	208
Fig. 2. Comparison of corn yields in Iowa with cash rents that would have been paid under the sliding-scale plan.....	215

## SUMMARY

1. The sliding-scale rent plan is a scheme for basing cash rentals on the prices which tenants receive for their products. The products used as a basis for determining rents are hogs, cattle, corn, butter, oats, eggs, poultry, wheat, hay and sheep. Each is given a weight in proportion to its contribution to the average farmer's income. The prices used are those farmers receive at local shipping points as reported by the several hundred government crop reporters scattered throughout the state.

2. A model lease form (see page 195) has been drawn with a schedule of rentals suitable for an average Iowa farm, but additional tables have been prepared (see page 201) for farms which are better or poorer than the average.

3. When it is preferred to rent the cropland under the crop-share lease the sliding-scale cash rent plan can be used to good advantage for the pasture and hayland.

4. If landlords and tenants wish to make an adjustment of cash rentals covering the current year, or a former year, the sliding-scale plan furnishes an excellent basis for doing so. The use of a plan of this kind also makes it safe to undertake long-term leases, at least for periods running for 3 to 5 years.

5. The sliding-scale plan for adjusting cash rents as described herein is based on the assumption that when time has been allowed for the adjustment to be made, cash rents will vary directly with and in the same proportion as the prices of farm products. A comparison of the trend of cash rents with the prices of farm products covering the years, 1910 to 1932, shows that in periods that are normal rents and prices do move along together. During the past 22 years there have been only three periods when rents were not in line with prices. One was during the war when prices rose higher than rents (see fig. 1). Another came just after the war when prices fell farther than rents. The third, similar in character to the one immediately following the war, began in 1930 and promises to run yet for another year or two.

6. A sliding-scale plan for determining cash rentals has much to commend it, if properly drawn. For one thing the rent varies directly with the prices tenants receive for the things they have to sell. Cash rents of the fixed type also become adjusted to the prices of farm products, in time, but during the process of adjustment a large proportion of the cash tenants find themselves so crippled financially that they



are unable to pay the contracted rents, and landlords meet with serious difficulties in attempting to collect the amounts that had been agreed upon. For many situations the cash lease is to be preferred over other forms of tenure, and a provision for the immediate adjustment of rent to the prices received would permit its use when otherwise it might be necessary to rent under another plan.

7. The use of the cash lease has a tendency also to encourage livestock production, resulting indirectly therefore in the conservation of soil fertility. The use of the flexible rent plan, because it permits the use of the cash lease, should, as a consequence, reflect itself in soil conservation. Another distinct advantage of the cash lease is the fact that the landlord does not have to concern himself with the marketing of a share of the crop. Furthermore, the plan would seem to be obviously fair to him, too, in view of the fact that the returns he would get under it are about the same that he would get under the crop-share lease where the rent also varies directly with the prices of farm products.

8. There is some question as to whether or not the plan ought not to take into account variation in yields as well as variation in prices. In view of the fact that in normal times nearly two-fifths of the tenants in Iowa rent their entire farms for cash, it is apparent that tenants do not object greatly to undertaking the risk of fluctuating yields. Furthermore, the superior tenant with the superior yields prefers not to have the rent fluctuate with the yields for, insofar as his superior yields were due to his superior ability, he would be penalized were he required to share the extra reward with his landlord.

## A Plan for Adjusting Cash Rent to Changes in the Prices of Farm Products

By MILLARD PECK

On account of the downward plunge of the prices of farm products during the past two years and the uncertainty about the future, there is a demand that farm leases now used, providing for a **fixed** amount of cash rent, be changed to provide for a rental based upon the prices farmers receive for their products during the period of the lease. When a plan of this kind is followed, the amount of rent is determined at the **end** of the year on the basis of the prices received **during** the year.

Since a farm is usually rented during the summer or fall preceding the year the tenant moves on to it, a period of approximately a year and a half to a year and three-quarters has usually elapsed between the time the agreement is made and the time the lease expires. This intervening period is so long that the prices of farm products are likely to have fluctuated greatly in the meantime.

With a fixed rental, if prices rise the tenant pays a smaller rental than he really could afford to pay; and if prices fall farther than they were expected to fall, the landlord gets a higher rental than the tenant can afford to pay. If prices drop as they did in 1930 and 1931 many tenants will find themselves unable to pay their rent and the landlords will not be able to collect. On the other hand, if prices should have risen the tenant would have reaped a reward he did not expect and the landlord would have failed to share in the farm income resulting from the higher prices. Under the sliding-scale plan proposed in this bulletin the rent will vary with the prices of farm products. If they rise, the rent rises; if they fall, the rent falls with them.

And it is important, too, that we have a plan which provides for cash rent based on the prices of farm products, for, with high fixed charges in the way of taxes and interest, landlords need to get as much in the way of rent as tenants can afford to pay. On the other hand, tenants renting for cash must pay rent out of the sale of their farm products. It is therefore important from their point of view also, that rents should not be greatly out of line with the market price of what they have to sell.

The fact that cash rentals are now out of line with the prices of farm products explains why there has been a pronounced shift during the past year from the cash lease to the crop-share and stock-share leases. Normally, two-fifths<sup>1</sup> of the tenant

<sup>1</sup> In 1930, according to the U. S. Census, 45,978 tenants in Iowa were using the cash lease as compared with 55,637 using either the crop-share or the stock-share lease.

farms in Iowa are rented entirely for cash. It is apparent, therefore, that for many situations the cash lease is preferred over the crop-share and stock-share forms of leasing, and it is consequently important to find a way of keeping the rents in line with the prices of farm products so that farmers who prefer the cash lease may use it without danger of being compelled to pay excessive rentals and that landlords may be certain of getting the benefit of any rise in the prices of farm products that may have occurred after the signing of the lease.

Furthermore, on the farms rented under the crop-share lease the pasture and hayland are usually rented for cash, and during the past two years it has taken nearly all the income that could be realized from the sale or utilization of crops to pay the rent on the pasture and hayland. It is important, therefore, that there also be a plan of adjusting cash rent for crop-share tenants.

#### **WHAT IS THE PLAN OF "ADJUSTING CASH RENT TO CHANGES IN THE PRICES OF FARM PRODUCTS?"**

On the following page there is shown a model lease form suitable for use on an average Iowa farm, with a clause providing for a cash rental based on the prices of farm products. It is specified that:

1. The prices are those of the 10 major Iowa farm products.
2. The prices are those published in the form of index numbers by the Department of Agricultural Economics of Iowa State College.
3. The rental shall be proportional to the average of the monthly prices for the months beginning with March and running through to and including the following January.
4. The first installment is to be paid Oct. 1 and final settlement is to be made Feb. 15 (but if it is preferred, the first installment can be paid at some other date, or it can be omitted altogether if it is preferred to pay the rent in one sum at the end of the year).

#### **What Are the 10 Farm Products Whose Prices Are Used in Adjusting Cash Rent?**

The 10 Iowa farm products whose prices are used in determining what the cash rental shall be are hogs, cattle, corn, butter, oats, eggs, poultry, wheat, hay and sheep.

The question will doubtless arise at once "Is the price of hogs not more important than the price of hay?" The answer is, "Yes." The prices of some products are much more important than others. On this account, when the prices of the 10 Iowa farm products are averaged together, certain products must be given more weight than others. In our average of the prices of Iowa farm products the weights in table I (p. 198) are used.

An examination of table I will show that so far as an average of the prices of the 10 leading Iowa farm products are concerned, hogs are 35 times as important as sheep, cattle 23 times as important as sheep, and so on.

## SLIDING-SCALE CASH FARM LEASE

This agreement is made this.....day of.....  
 19....., between.....hereinafter  
 called the landlord, and.....  
 hereinafter called the tenant.

## Description of Farm

For and in consideration of the rental specified below, the Landlord hereby leases to the tenant, his farm of.....acres, known as the.....Farm, located in.....County, State of..... together with all the buildings and improvements upon it. The legal description of said farm is as follows:.....

## Length of Lease

The length of this lease is for one year from March 1, 19....., to March 1, 19....., and to March first thereafter from year to year until notice to the contrary is given by either party to the other in writing before.....preceding the end of such crop year.

## Amount of Rental

The tenant shall pay to the landlord, as rent per acre for the above described farm, an amount proportional to the simple average of the monthly index numbers of the prices of the ten Iowa farm products for the months of March, April, May, June, July, August, September, October, November, and December, 193....., and January, 193....., as computed and published by the Department of Agricultural Economics, Iowa State College, Ames, Iowa, the rent being proportional to said average as shown in the following table.

If the simple average of the monthly prices of farm products for the eleven months specified above is:

150	the rental shall be	\$8.70	per acre
140	" " " "	\$8.12	" "
130	" " " "	\$7.54	" "
120	" " " "	\$6.96	" "
110	" " " "	\$6.38	" "
100	" " " "	\$5.80	" "
90	" " " "	\$5.22	" "
80	" " " "	\$4.64	" "
70	" " " "	\$4.06	" "
60	" " " "	\$3.48	" "

The rental shall be paid in two installments, the first being due and payable October 1, 193....., in a fixed amount of \$2.50 per acre, the second on February 15, 193..... The amount due and payable February 15th shall be the full rental for the period of the lease as computed according to the table above, less any installment or installments previously paid.

## The Landlord Agrees

1. To furnish to the tenant the above described farm together with all improvements upon it and to put all buildings, fences, and other improvements in repair at the beginning of the lease and to keep them in repair during the life of this lease, except as hereinafter provided. (See paragraph 5 and 6 under "the tenant agrees").
2. To pay for all material for construction of new fences and for the repair of fences and buildings made necessary by ordinary wear and depreciation during life of this lease, and to pay for all the labor needed in building new permanent buildings and fences.



3. To pay for all material and labor used in tiling, ditching and otherwise permanently improving the farm, except as hereinafter provided (See paragraph 6 under "the tenant agrees").

4. To make certain new improvements as follows:.....

5. To pay all taxes and insurance on the farm and its improvements.

6. ....

#### The Tenant Agrees

1. To assign or sublet no part of the farm without written consent of the landlord.

2. To haul and spread upon the fields jointly determined by tenant and landlord, all manure produced on the farm, cleaning up the premises at least once a year.

3. To burn no straw or other roughage produced on the farm but to return such material to the soil either in its natural state or as manure.

4. To cut no live trees on the farm except by permission of the landlord.

5. To haul to the farm all fencing and building material for repairs and improvements when purchased by the landlord, provided such materials be utilized on the farm at a time to enable the tenant to profit by them to the extent of at least one season's use during his tenure of the farm.

6. To furnish the labor for all ordinary repairs during his tenure of the farm and to build all temporary fences.

7. To board all extra help employed by the landlord for making improvements on the farm at.....cents per meal.

8. To follow a system of farming and methods of tillage that will conserve the fertility of the soil and the general productivity of the farm. To this end he agrees to cut and destroy all noxious weeds according to law, to bring no seed nor feed upon the premises until such material is known to be free from all noxious weed seed, to take reasonable care to prevent soil-washing, to sow as large an acreage of leguminous crops as he can most profitably utilize, to feed as large a proportion of all crops raised as market conditions make profitable, and in all respects to care for the landlord's property in such manner as to return it at the termination of the lease in as good condition as to fertility of soil and condition of improvements as at the beginning, ordinary wear and depreciation excepted.

9. To surrender peaceably possession and occupancy of the premises at the expiration of the lease.

10. ....

#### Tenant to Be Reimbursed

When this lease is terminated on March 1 of any year by notice as hereinbefore provided the landlord shall reimburse the tenant:

1. For plowing left in excess of the area plowed at the beginning of the lease at \$.....per acre: provided that if the plowing left is less in area than at the beginning of the lease the tenant shall reimburse the landlord at the same rate.

2. For clover sod to be plowed for crops the following season in excess of that found in similar condition at the beginning of the lease at the rate of \$.....per acre provided that the tenant pay the landlord at the same rate if such land is less in area than at the beginning of the lease.

3. For barnyard manure and other fertilizer, at the rate of \$.....per ton which the tenant has produced or purchased and upon which he has not realized by one year's crop: provided he has duly compensated the landlord for similar benefits which he may have received on taking possession of the farm.

The tenant shall present his claims for such reimbursements in writing at least.....days before the termination of this lease.

**Non-fulfillment: Right of Entry.**

The landlord reserves the right to enter and view the premises at all reasonable hours.

If either party shall fail in any respect to carry out the provisions of this lease, then the other may hire the same done and the costs shall be paid by the party failing to carry out said provision.

**Arbitration**

If dispute shall arise over any of the provisions of this lease, the parties may agree to refer the matter to a board of three arbiters, one chosen by the landlord, another by the tenant, and a third by the two first chosen. If and when disputes are thus submitted, the decisions of this board shall be binding upon both landlord and tenant.

Witness our hands on the date first above written.

Witnesses: .....

STATE OF IOWA

County

} ss:

On this.....day of.....A. D., 19....., before the undersigned ..... a Notary Public within and for said County, personally appeared to me known as the identical person.... named in and who executed, and whose name.....affixed to the foregoing instrument as parties thereof and acknowledged the signing and execution of same to be.....voluntary act and deed.

Witness my hand and notarial seal the date last above written.

Notary Public in and for.....County,  
State of.....

**CASH FARM LEASE**

TO

STATE OF IOWA,

County,

} ss.

Filed for record this.....day of.....A. D., 19....., at.....o'clock.....m., and recorded in book.....of.....on page.....

Recorder

Deputy

Recording fee, \$.....Paid



TABLE I. WEIGHTS GIVEN TO THE VARIOUS FARM PRODUCTS WHOSE PRICES ARE USED IN COMPUTING THE AVERAGE OF THE PRICES OF IOWA FARM PRODUCTS.

Product	Weight
Hogs	35
Cattle	23
Corn	14
Butter	13
Oats	6
Eggs	4
Poultry	2
Wheat	1
Hay	1
Sheep	1
Total	100

### What Prices Are Used as a Basis for Determining Cash Rentals?

The prices used in determining what the rent shall be are the prices paid to Iowa farmers at local markets. These are the prices reported monthly to the United States Department of Agriculture by the several hundred farmer crop reporters scattered throughout the state.

The reports for each product are averaged together giving an average price for the whole state. These state average prices are published each month in a pamphlet, *Agricultural Economic Facts*, which can be had free upon request, either through the county agricultural agents, or by writing to the Agricultural Extension Service, Iowa State College, Ames, Iowa.

It will be noted in the model lease that the prices of farm products are expressed in the form of index numbers. This raises the question as to what is meant by an index number. In brief it is this. Let the combined average of the prices of the 10 Iowa farm products for the five pre-war years, 1910 to 1914, be represented by 100 and call this the average index number for those years. If the prices now were higher than in those pre-war years the present index would be above 100; if lower (as is unfortunately the case now) the index would be below 100.

The index number of the price of Iowa farm products was 61 for August, 1932. This means that the prices of Iowa farm products are now, on the average, 39 points (100 minus 61) below what they were, on the average, during the five pre-war years, 1910 to 1914.

The meaning of index numbers will become clearer if one notes the actual annual average prices of the 10 farm products for each of the years since 1910 and the index numbers that correspond to these actual prices as shown in table II (page 199).

### How Is the Average of the Index Numbers for the 11 Months, March to January, Computed?

To compute the annual index number which is to be used as a basis for determining the cash rental for a given lease-year,

one merely adds up the 11 monthly index numbers, as published in Agricultural Economic Facts, and divides the sum by 11. This is done as follows:

Month	Year	Index
March	1931	98
April	"	98
May	"	87
June	"	82
July	"	85
August	"	82
September	"	78
October	"	73
November	"	77
December	"	67
January	1932	63

Total = 890

Average =  $890 \div 11 = 81$  = Index number for lease-year

11

March 1, 1931, to March 1, 1932.

It would have been desirable to have included the index number of the prices of farm products for February, but since it is specified in the lease that final settlement is to be made on

TABLE II. AVERAGE ANNUAL PRICES OF FARM PRODUCTS AND THE CORRESPONDING INDEX NUMBERS, 1910-1932.

Year	Hogs (dollars per 100 pounds)	Cattle (dollars per 100 pounds)	Sheep (dollars per 100 pounds)	Corn (cents per bushel)	Oats (cents per bushel)	Wheat (cents per bushel)	Hay (dollars per ton)	Butter (cents per pound)	Eggs (cents per dozen)	Poultry (cents per pound)	Index numbers
1910	8.17	5.85	5.01	49	34	94	8.61	26	18	10	103
1911	6.20	5.57	4.04	47	34	85	10.18	22	14	9	87
1912	6.82	6.17	4.15	57	36	87	11.23	26	18	9	99
1913	7.67	7.02	4.54	50	33	75	9.11	27	16	11	104
1914	7.66	7.33	4.81	61	36	85	9.98	26	18	11	108
1915	6.49	6.94	5.10	64	41	106	10.55	26	18	11	103
1916	8.63	7.53	6.37	70	40	117	8.98	29	21	13	120
1917	14.43	9.72	9.58	129	57	203	13.07	37	30	16	181
1918	16.39	11.70	9.99	133	70	203	17.28	44	33	19	207
1919	16.87	12.45	9.07	141	62	205	18.36	52	37	20	219
1920	13.02	10.24	7.46	121	68	208	19.10	55	40	21	189
1921	7.61	6.48	4.09	41	27	117	10.96	36	23	18	104
1922	8.52	6.83	5.61	48	29	96	9.68	34	22	16	111
1923	6.91	7.30	6.29	67	35	92	11.21	41	23	16	115
1924	7.34	7.40	6.81	82	42	109	12.34	39	23	17	122
1925	11.08	8.43	7.48	86	39	144	11.23	41	27	18	147
1926	11.62	7.98	6.84	60	34	128	13.98	42	28	20	141
1927	9.49	8.92	6.57	74	41	122	13.69	44	23	18	140
1928	8.61	10.85	6.94	81	43	109	12.05	46	25	20	145
1929	9.48	10.78	6.49	77	39	107	10.66	46	26	19	147
1930	8.80	9.24	4.64	69	33	79	9.34	36	19	15	127
1931	5.64	6.54	2.86	44	21	47	8.32	27	14	14	86
1932											
Jan.	3.40	5.00	2.00	32	21	42	8.20	27	14	12	63
Feb.	3.20	4.40	2.20	29	21	42	8.70	22	11	11	57
March	3.80	4.80	2.60	29	21	43	9.20	22	8	11	62
April	3.40	4.80	2.60	27	21	43	10.00	21	9	11	60
May	2.70	4.30	2.00	25	19	41	9.80	19	10	10	53
June	2.50	4.30	1.90	23	17	39	8.60	17	9	9	49
July	4.20	5.90	1.90	25	14	34	7.10	17	10	10	63
Aug.	3.90	5.90	1.90	25	12	37	7.00	20	13	11	61
Sept.	3.55	6.00	2.00	21	12	37	6.40	20	14	11	57

Feb. 15, February must be left out of our calculations. Where the tenant remains on the same farm the following year and settlement is made in March it would be possible to include the February index number also.

The monthly index numbers of the prices of farm products for the years 1925 to 1932 are shown in table III. One will find in table III the monthly index numbers used in the example worked out above. Incidentally, it will be noted that, beginning with July, 1929, the prices of farm products have gone almost steadily downward.

TABLE III. MONTHLY INDEX NUMBERS OF THE PRICES OF IOWA FARM PRODUCTS, JANUARY, 1925, TO SEPTEMBER, 1932.

	1925	1926	1927	1928	1929	1930	1931	1932
January .....	143	138	137	135	136	136	106	63
February .....	142	141	142	133	143	140	95	57
March .....	157	138	137	134	154	136	98	62
April .....	151	139	137	140	155	135	98	60
May .....	146	141	135	151	154	132	87	53
June .....	151	144	132	153	151	128	82	49
July .....	160	145	134	158	156	117	85	63
August .....	159	140	139	151	152	122	82	61
September .....	149	140	146	160	151	133	78	57
October .....	145	145	150	150	147	126	73	
November .....	140	141	140	140	137	116	77	
December .....	138	141	137	137	136	111	67	

**What Is Meant by the Statement in the Lease Clause, "The Rent Is to Be 'Proportional' to the Simple Average of the Monthly Index Numbers of the Prices of the Ten Iowa Farm Products?"**

By this it is meant that for a farm whose quality, from the standpoint of soil, drainage, buildings, accessibility to market, etc., is just about up to the state average the rent will be \$5.80 per acre if the average of the prices for the 11 months is at 100, \$5.22 if at 90, \$4.64 if at 80, and so on (see table of rents in model lease form).

The table of rents in the model lease shows that an index number of 100 calls for a cash rental of \$5.80; that is, each point on the index number is equal to 5 8/10 cents. (\$5.80 divided by 100 equals 5 8/10 cents).

Now we have reached the point where we can compute the rent a tenant would have paid for an average Iowa farm for the lease year ending March 1, 1932. The average of the 11 monthly index numbers for the period, March, 1931, to January, 1932, was 81. (See problem worked out on page 199). Since each point on the index number corresponds to a rental of 5 8/10 cents, an index number of 81 would call for a rental of 81 times 5 8/10 cents or \$4.70. This is the rent a tenant would have paid last year (March 1, 1931, to March 1, 1932) for a farm with soil, buildings, etc., approximately equal to the state average.

### How Does the Sliding-Scale Rent Plan Take Into Consideration Differences in the Quality of Farms?

There are, of course, many grades of land in Iowa, and if the sliding-scale rental plan is to come into general use it will need to take these differences into consideration. An analysis of cash rent data covering the years 1925 to 1929 shows a variation from county to county of as much as from 45 percent below the state average to 20 percent above.

The plan of adjusting cash rent to the prices of farm products is easily modified to take into account this state-wide variation. All we need to do is to raise each of the values shown in the table in the model lease by 10, 20, 30, or 40 percent or to reduce them by 10, 20, 30, or 40 percent, depending upon the extent to which the farm is above or below the state average. This modification of the basic table in the model lease is shown in table IV.

TABLE IV. SCHEDULES FOR VARIOUS GRADES OF FARMS.

SCHEDULE A For farms 10% above state average		SCHEDULE B For farms 20% above state average		SCHEDULE C For farms 30% above state average		SCHEDULE D For farms 40% above state average	
Index No.	Cash rent	Index No.	Cash rent	Index No.	Cash rent	Index No.	Cash rent
150	\$ 9.57	150	\$10.44	150	\$11.31	150	\$12.18
140	8.93	140	9.74	140	10.56	140	11.37
130	8.29	130	9.05	130	9.80	130	10.56
120	7.66	120	8.35	120	9.05	120	9.74
110	7.02	110	7.66	110	8.29	110	8.93
100	6.38	100	6.96	100	7.54	100	8.12
90	5.74	90	6.26	90	6.79	90	7.31
80	5.10	80	5.57	80	6.03	80	6.50
70	4.47	70	4.87	70	5.28	70	5.68
60	3.83	60	4.18	60	4.52	60	4.87
SCHEDULE E For farms 10% below state average		SCHEDULE F For farms 20% below state average		SCHEDULE G For farms 30% below state average		SCHEDULE H For farms 40% below state average	
Index No.	Cash rent	Index No.	Cash rent	Index No.	Cash rent	Index No.	Cash rent
150	\$ 7.83	150	\$ 6.96	150	\$ 6.09	150	\$ 5.22
140	7.31	140	6.50	140	5.68	140	4.87
130	6.79	130	6.03	130	5.28	130	4.52
120	6.26	120	5.57	120	4.87	120	4.24
110	5.74	110	5.10	110	4.47	110	3.83
100	5.22	100	4.64	100	4.06	100	3.48
90	4.70	90	4.18	90	3.65	90	3.13
80	4.18	80	3.71	80	3.25	80	2.78
70	3.65	70	3.25	70	2.84	70	2.44
60	3.13	60	2.78	60	2.44	60	2.09

The schedule of rents shown in the model lease form on page 195 is suitable for use where the quality of the farm is about equal to the state average. When we speak of the "quality" of the farm we have in mind the type and condition of the soil, drainage, topography, character of the buildings, distance to



market, kind of roads over which the farm products must be transported, and those various related factors which make some farms more desirable than others.

Table V has been prepared as an aid in deciding which table to use for a given farm. The first column shows the average rentals that were paid in each county during the five-year period, 1925 to 1929, inclusive. The second column shows the percentage which the average rental was in a given county as compared with the state average. For example, in Adair County the average cash rental was \$6.76 per acre, which was 89 percent of the state average, the state average being \$7.58 per acre during the five years from 1925 to 1929. In Cherokee County the average rental during these years was \$8.57 which was 113 percent of the state average; that is 13 percent above the state average.

In the third column of table V we have indicated which one of the rent schedules, A to H (see table IV), is to be used for each of the counties. In Adair County, for example, where the rent during the years 1925 to 1929 was 11 percent below the state average we suggest for an average farm the use of schedule E which provides for a rental 10 percent below the schedule of rents shown in the model lease form. In Cherokee County where the average rent is normally 13 percent above the state average we suggest that schedule A, providing for rentals 10 percent above those shown in the model lease form, be used since it more nearly fits the case than any other schedule that might be chosen, unless we were to construct a special schedule of rents exactly 13 percent above those shown in the model lease, but it does not seem worth while to make such a fine distinction between grades of farms. One ought to be able to select from the eight schedules, A to H, table IV, and the one in the model lease, one that will be suitable for any ordinary farm in Iowa. If one wanted to construct a table with a schedule of rentals 13 percent above those shown in the model lease, however, he could easily do so, by multiplying each of the values shown in the model lease by 1.13.

#### **How Does One Take Into Account the Variation Within a County in the Quality of Farms?**

It is true that within a given county there is a wide variation in farms. Let us take the case of Cass County. There the average rental is exactly equal to the state average. During the years 1925-1929 land renting for cash brought \$7.61 per acre, on the average. Suppose the farm for which we are trying to select a schedule of rents would have rented during these years for only \$6.75 an acre. This is, roughly, 10 percent below the county average. We would, therefore, use schedule E. Suppose, on the other hand, that it had been a better farm

TABLE V. SHOWING (1) AVERAGE CASH RENT PAID FOR IMPROVED FARM LAND IN EACH OF THE COUNTIES IN IOWA FOR THE YEARS 1925-1929, (2) A COMPARISON WITH THE STATE AVERAGE, AND (3) SCHEDULE OF RENTS TO BE USED FOR EACH COUNTY.

County	Av. rent per acre 1925-29	Percent of state average	Rent schedule to be used	County	Av. rent per acre 1925-29	Percent of state average	Rent schedule to be used
	(1)	(2)	(3)		(1)	(2)	(3)
Adair	\$6.76	89	E	Jefferson	6.74	89	E
Adams	6.69	88	E	Johnson	8.18	108	A
Allamakee	6.39	84	F	Jones	7.88	104	Model
Appanoose	4.73	62	H	Keokuk	8.19	108	A
Audubon	7.87	104	Model	Kossuth	7.42	98	Model
Benton	8.30	109	A	Lee	5.79	76	F
Blackhawk	7.98	106	A	Linn	7.07	93	E
Boone	8.34	110	A	Louisa	8.08	107	A
Bremer	6.81	90	E	Lucas	5.26	96	Model
Buchanan	6.11	81	F	Lyon	8.22	108	A
Buena Vista	8.85	117	B	Madison	7.70	102	Model
Butler	6.89	91	E	Mahaska	8.29	109	A
Calhoun	8.71	114	A	Marion	7.04	93	E
Carroll	8.47	112	A	Marshall	8.42	111	A
Cass	7.61	100	Model	Mills	7.92	104	Model
Cedar	9.11	120	B	Mitchell	5.53	73	G
Cerro Gordo	6.81	90	E	Monona	7.72	102	Model
Cherokee	8.57	113	A	Monroe	5.25	69	G
Chickasaw	5.16	68	G	Montgomery	8.03	106	A
Clarke	5.93	78	F	Muscatine	8.22	108	A
Clay	7.73	102	Model	O'Brien	8.24	109	A
Clayton	7.15	94	E	Osceola	7.26	96	Model
Clinton	7.99	106	A	Page	8.76	116	B
Crawford	8.01	106	E	Palo Alto	7.48	99	Model
Dallas	6.56	87	E	Plymouth	7.88	104	Model
Davis	4.85	64	H	Pocahontas	5.58	114	A
Decatur	5.12	68	G	Polk	8.42	111	A
Delaware	7.16	94	E	Pottawattamie	8.19	109	A
Des Moines	7.92	104	Model	Poweshiek	8.34	110	A
Dickinson	6.86	90	E	Ringgold	5.18	68	G
Dubuque	7.62	100	Model	Sac	8.77	117	B
Emmet	6.41	98	Model	Scott	8.72	116	B
Fayette	6.11	81	F	Shelby	8.31	110	A
Floyd	6.51	86	E	Sioux	8.73	116	B
Franklin	7.77	102	Model	Story	9.12	120	B
Fremont	7.87	104	Model	Tama	8.50	112	A
Greene	8.46	112	A	Taylor	6.66	88	E
Grundy	8.97	118	B	Union	6.10	80	F
Guthrie	7.21	96	Model	Van Buren	5.12	68	G
Hamilton	9.08	120	B	Wapello	6.10	80	F
Hancock	7.27	96	Model	Warren	6.85	90	E
Hardin	8.62	114	A	Washington	8.58	113	A
Harrison	7.84	103	Model	Wayne	5.18	68	G
Henry	8.19	108	A	Webster	8.28	109	A
Howard	4.15	55	H	Winnebago	7.03	93	E
Humboldt	8.62	114	A	Winneshek	5.95	78	F
Ida	8.77	116	B	Woodbury	8.00	106	A
Iowa	8.23	109	A	Worth	5.84	77	F
Jackson	6.47	86	E	Wright	7.80	103	Model
Jasper	8.34	110	A				

than the general run of Cass County farms and was rented or would have rented for \$8.50 an acre. This is about 12 percent above the average for Cass County. In this event schedule A is the one which most nearly fits the case. It provides for rentals 10 percent above the average for Cass County.

To make sure that we have made clear the way we would take into account the differences in the quality of farms within a given county let us take one more example—a farm in Tama County. Here the average cash rentals are normally \$8.50 an



acre or 12 percent above the state average. For an average Tama County farm schedule A, providing for rents 10 percent above the state average, would most nearly fit the case unless we wanted to construct a special schedule with a scale of rents 12 percent above those shown in the model lease. Suppose the farm in question rented or would have rented from 1925 to 1929 for \$9.25 an acre, or 9 percent above the county average. Now the county average is normally 12 percent above the state average, and since this particular farm is 9 percent above the county average it is about 22 percent above the state average. Schedule B, therefore, most nearly fits the case, since it provides for a rental 20 percent above the state average.

What has just been said may seem complex since we have had to talk in terms of percentages. Perhaps it will be clearer if we put it this way: If the quality of the farm is just about equal to the county average use the schedule suggested in table V; if the farm is considerably better than the county average, use a schedule **one step above** the one suggested in table V; if the quality of the farm is considered below the county average, use a schedule **one step below** the one suggested in table V; and if a farm is far superior to the county average, use a schedule of rents **two steps above** the one suggested in table V. On the other hand, select a schedule **two steps below** that suggested in table V if the farm is greatly inferior to the county average. There should be no special difficulty in determining how much better or poorer a given farm is than the general run of farms in the county. This is always done under any form of renting and ordinarily presents no serious difficulty. It is usually not difficult to reach an agreement as to whether one farm should command a higher rental than another. The main difficulty is involved in the uncertainty as to whether both farms may or may not be rented too high in view of the prices that tenants realize from the sale of their products. It is this latter and more difficult problem that the sliding-scale rent plan is intended to solve.

#### **IF CROPLAND IS RENTED UNDER A CROP-SHARE LEASE, THE SLIDING-SCALE PLAN CAN BE USED TO AD- VANTAGE FOR THE PASTURE AND HAYLAND**

The sliding-scale plan can be used to good advantage in connection with the crop-share lease. Where the pasture and hayland is in regular rotation with the rest of the farm land, it ought to command as high a cash rental as the rest of the farm. Therefore if the land is up to the county average the schedule suggested in table V would be the one to use. If the pasture and hayland on a given farm is inferior to the rest of the farm or inferior to the general run of farms in that region

then a table should be selected calling for a lower rental. An easy way to decide as to the proper table to use is to ask what the pasture and hayland would have rented for back in 1925-1929 as compared with the county average for farm land in general. If it would have rented for \$7.25 an acre when land in general was renting for \$8, then it rented for approximately 10 percent below land in general. In this case one would use a schedule of rents 10 percent (or one step) below that which would have been used for the general run of farm land in the region.

In view of the fact that during the past two years, in large numbers of cases, it has taken nearly all the cash the tenant received from his share of the crop on crop-share rented farms to pay the cash rent on pasture and hayland, it would seem particularly important to adopt a sliding-scale plan for the part of the farm that is rented for cash which, in nearly all instances (except where the stock-share lease is used), includes the pasture and hayland.

#### **SILIDING-SCALE PLAN CAN BE USED FOR ADJUSTING THE CASH RENT OF CURRENT YEAR OR A PAST YEAR IF THE RENT IS GREATLY OUT OF LINE WITH THE PRICES OF FARM PRODUCTS**

The index number of the prices of farm products stood at 122 in August, 1930, as compared with 82 in August, 1931, and 57 for September, 1932. This steady downward trend in the prices of farm products has worked a particularly severe hardship on tenants who have rented any part of their farms for cash, because the rents they contracted to pay were established on the basis of higher prices than those actually received.

If tenants and landlords wish to make an adjustment of the rent for the present year or for a previous year, the sliding-scale plan affords an excellent tool for doing so. Let us illustrate the method by an example, taking an average farm in Hamilton County where farms rent on the average for 20 percent above the state average (see table V). Suppose that for the present crop year, beginning March 1, 1932, and ending March 1, 1933, a tenant renting under a crop-share lease had agreed to pay a rental of \$7 an acre for the pasture and hayland amounting to 50 acres.

The monthly index numbers of the prices of Iowa farm products for the months beginning with March, 1932, and running through September, 1932, are as follows:

March,	1932	62
April	"	60
May	"	53
June	"	49
July	"	63
August	"	61

September, 1932	57	} (Assumed only for purposes of illustration and are not intended to be in the nature of a forecast.)
October       "	56	
November     "	52	
December     "	57	
January, 1933	62	

Total                      636

Average of index numbers =  $\frac{636}{11} = 58$  = Average of the 11 monthly index numbers.

To show how the adjustment of rent would be carried out, on Feb. 15, suppose it turns out that the index numbers for October to January are those shown above. The average of the 11 monthly index numbers is their sum divided by 11, or 58. It will be recalled that this farm is in Hamilton County where land rents, on the average, for 20 percent above the state average. The schedule of rents that we shall need to use, therefore, is the one shown under schedule B.

Now if we refer to schedule B (page 201) it will be observed that an index number of 100 calls for a cash rental of \$6.96. Each point on the index number equals 6 96/100 cents (\$6.96 divided by 100 equals 6 96/100 cents). But the average index number for the 11 months used in the example was 58. The rent per acre that is to be paid, therefore, is  $58 \times 6 \text{ 96/100}$  cents or \$4.04, and not \$7 as originally agreed upon. If the farm had been 10 percent better than the county average we would have used schedule C and the rent would have been \$4.37 an acre, and if the farm had been 20 percent above the county average schedule D would have been used, calling for a rental of \$4.71 an acre.

#### THE SLIDING-SCALE PLAN CAN BE USED TO GOOD ADVANTAGE WHERE THE LEASE RUNS FOR A LONG-TERM PERIOD

In many cases tenants and landlords prefer the lease to run for 3 to 5 years or more. In the past, one of the serious drawbacks to the long-term lease has been the uncertainty as to the prices that farm products would bring. Where the crop-share lease was used this difficulty has been taken care of, after a fashion, so far as the crop land was concerned, for, with the crop-share lease the rent on the crop-land fluctuated with the prices received for the products raised. But the type of crop-share lease ordinarily used does not provide for a flexible rent for the pasture and hayland. On this account it is dangerous for both landlord and tenant to undertake long-term leases where the usual type of cash lease or the ordinary type of crop-share lease is used.

With the sliding-scale plan it would be safe to undertake five-year leases for it would be certain from the outset that whatever the rent was it would be in line with the prices that

were obtained for products disposed of. Perhaps the question may be raised here as to whether the monthly index numbers will be continuously available. The Department of Agricultural Economics of Iowa State College has been publishing these monthly index numbers regularly since they were first worked out seven years ago, and since they have come to be used for so many different purposes there is not the slightest doubt about the continuation of their publication.

Table VI shows the rents that would have been paid for average Iowa farms during each of the years, 1910 to 1932, if the rents had been based on the sliding-scale plan described herein. For farms 10, 20, 30, or 40 percent above average the rents would have been proportionately higher. Likewise for farms 10, 20, 30, or 40 percent below average the rents would have been proportionately lower.

TABLE VI. SHOWING WHAT THE CASH RENT PER ACRE ON AVERAGE IOWA FARM LAND WOULD HAVE BEEN FROM 1910 TO 1931 ACCORDING TO THE SLIDING-SCALE PLAN

Year	Index numbers for lease-year (11 months)	Cash rent
1910	101	\$ 5.85
1911	87	5.05
1912	100	5.80
1913	106	6.15
1914	107	6.21
1915	102	5.92
1916	125	7.25
1917	189	10.96
1918	210	12.18
1919	216	12.53
1920	181	10.50
1921	100	5.80
1922	114	6.61
1923	114	6.61
1924	126	7.31
1925	148	8.58
1926	141	8.18
1927	138	8.00
1928	146	8.47
1929	148	8.58
1930	124	7.19
1931	81	4.70

### THE THEORY UPON WHICH THE SLIDING-SCALE PLAN OF RENTING FARM LAND IS BASED

The sliding-scale plan is based on the assumption that over a period of years cash rentals adjust themselves to the prices tenants receive for their products. It is assumed further that a given percentage change in the prices of farm products will eventually be reflected by an approximately equal percentage change in cash rentals. Evidence of this relationship is indicated in fig. 1, showing the trend of the prices of farm products and the trend of cash rents for the 22-year period, 1910-1932. The data used in the construction of fig. 1 are shown in table VII.



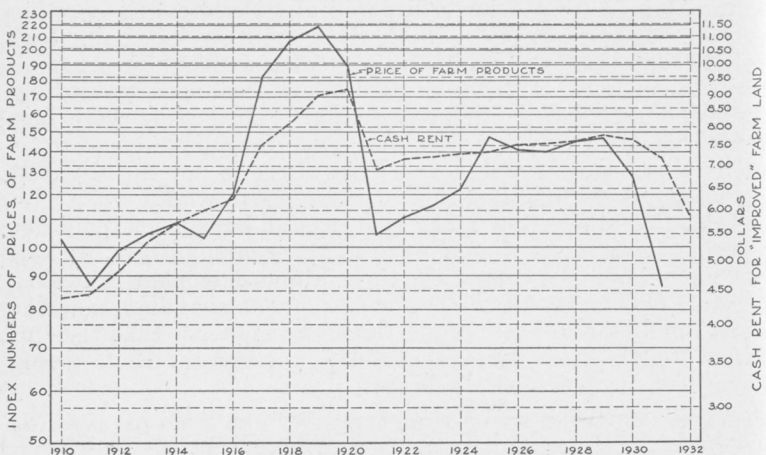


Fig. 1. Index numbers of the prices of farm products in Iowa compared with the cash rent paid for "improved" farm land, 1910-1932.

### Trend of the Prices of Farm Products, 1910-1932

It will be noted from an examination of fig. 1 (above) that the prices of Iowa farm products rose steadily from 87 in 1911, to 120 in 1916. Perhaps it should be repeated, that the index number, 100, represents the combined average of the prices of the 10 main Iowa farm products during the years 1910 to 1914, inclusive. An index number for any other year simply tells us whether the combined average of the prices of Iowa farm products was higher or lower than it was in these pre-war years, 1910 to 1914. In other words, it is the average of these years with which we make our comparisons in following years.

TABLE VII. INDEX NUMBERS OF THE PRICES OF THE TEN MAJOR IOWA FARM PRODUCTS AND AVERAGE CASH RENT ACTUALLY PAID PER ACRE FOR IMPROVED FARM LAND IN IOWA, 1910-1932.

Year	Index of the prices <sup>a</sup> of farm products	Cash rent	Year	Index of the prices of farm products	Cash rent
1910	102 <sup>1</sup>	\$4.42	1922	111	\$7.18
1911	87	4.46	1923	115	7.25
1912	99	4.85	1924	122	7.28
1913	104	5.41	1925	147	7.38
1914	108	5.76	1926	141	7.54
1915	103	6.06	1927	140	7.60
1916	120	6.25	1928	145	7.64
1917	181	7.52	1929	147	7.75
1918	207	8.17	1930	127	7.65
1919	219	9.02	1931	86	7.30
1920	189	9.13	1932	.....	5.88
1921	104	7.01			

<sup>1</sup>The index numbers in this table are slightly different from those shown in table VI. These cover the calendar year January to December, whereas those shown in table VI cover the lease-year March to January, inclusive.

It will be observed that the prices of Iowa farm products rose from an average of 120 in 1916 to an average of 219 in 1919. This rise was due, in the first place, to an unusual demand for farm products and, in the second, to the monetary inflation which accompanied these war years. From the high point of 219, in 1919, farm product prices fell to an average of 189 in 1920 and from there they dropped to an average of 104 in 1921. After 1921 there was a consistent rise up to 1925 when they had reached an average of 147. During the following years, up to and including 1929, the prices of farm products changed very little from year to year. The trend of prices since 1929 is so well known as to require little comment here. It will suffice merely to say that for 1930 the average had dropped to 127, to 86 in 1931, and to 57 in September, 1932.

#### **Trend of Cash Rents in Iowa, 1910-1932**

Cash rents advanced steadily between 1910 and 1920 (fig. 1, page 208). Then, as a result of the decline in the prices of farm products, they fell from \$9.13 an acre in 1920 to \$7.01 per acre in 1921. After 1921 they increased a little each year, up to and including 1929, but from 1925 to 1929 the change was small. The average rental for these latter years (1925-1929) was \$7.58 per acre.

Since 1929 the trend of cash rents has been distinctly downward. In 1930 the average cash rent dropped to \$7.65, in 1931 to \$7.30 and in 1932 to \$5.88 per acre. The large decrease in the rent paid on Iowa farms in 1932 is due to the recent precipitous fall in the prices of farm products.

#### **Trend of Cash Rents Compared With the Trend of the Prices of Farm Products**

Before the war the relationship between cash rents and the prices of farm products held remarkably uniform up to 1916 (see fig. 1). From 1916 to 1919 the prices of farm products rose with extreme rapidity, due mainly to the influence of the war demand for farm products, and an inflated currency. But there was considerable doubt on the part of farmers at that time as to whether the high prices would continue, with the result that the cash rent paid each year was considerably below what the prices of farm products would really have justified. But, at that, there was a marked rise in cash rentals during the war years.

By the end of 1921 the prices of farm products had dropped back almost to where they were before the war. Most people felt that this situation could not continue permanently. At first it was felt that the prices of farm products would recover rather quickly and, accordingly, there was a tendency for ten-



ants to pay rents considerably in excess of what the prices of farm products really warranted.

As a matter of fact the prices of farm products did begin to rise early in 1922 and continued rising up to 1925. The rise, however, was slower than many people had expected. Accordingly, the tendency was for cash rents to remain above the level of product prices. During these years rents were about 50 percent above the pre-war average while the prices of farm products ranged from only 4 percent above pre-war in 1921 to 47 percent above in 1925.

By 1925 the relationship between the prices of farm products and cash rents became normal again and continued so up to and including 1929. This was a period in which the returns received by tenants for the things they raised justified the cash rent which they were paying. During these years tenants were generally satisfied and landlords felt they were getting as much in the way of rent as tenants could afford to pay. It may be said, therefore, that landlords likewise were generally satisfied with the rents they received from 1925 to 1929.

The year 1930 witnessed a considerable drop in the prices of farm products, although prices held fairly steady until late in the year. Since the rent paid in a given year is usually agreed upon during the autumn months of the preceding year, we should naturally expect that cash rents would remain on the previous high level through 1930; and that is exactly what happened.

Our plan for adjusting cash rent to the prices of farm products is based on the existence of this close relationship, **in normal times**, between the prices of farm products and cash rent. From 1925 to 1929, inclusive, the average index of the prices of farm products stood at 144; that is, 44 points above the average for 1910 to 1914, inclusive. During these same years—1925 to 1929—the average cash rent paid for improved farm land in Iowa was \$7.58.

At this point an assumption of considerable significance is to be made. The average rental of \$7.58 paid during the years from 1925 to 1929 was a rental of the **fixed** type. It was a rental which tenants paid regardless of the prices they may have received for their products. When the lease provides for a fixed rental the tenant assumes all the risk due to price fluctuation, and it may be assumed that his rental is accordingly lower than it would be if the risk were borne wholly or in part by the landlord.<sup>2</sup> Now under the sliding-scale plan the

<sup>2</sup> During a period of declining prices tenants are likely to find themselves in a situation where they cannot actually pay the rentals agreed upon and landlords are required to make adjustments of one kind or another. Under the fixed type of cash lease, therefore, landlords bear a certain amount of the risk growing out of the fluctuation of prices of farm products, and in a period of declining prices they are likely to bear the major portion of this burden.

risks growing out of price fluctuation of farm products are borne by the landlord and tenant. It must be fairly assumed, therefore, that if the sliding-scale plan had been used during the period 1925 to 1929, the average rental landlords received would have been somewhat in excess of \$7.58 an acre because they would have been bearing a share of the price risk.

An analysis of landlords' returns under the crop-share lease, where the risk due both to fluctuation in prices and fluctuation in yields is shared by the landlord, suggests that for an average Iowa farm the rental corresponding to an index number of 144 should be increased by 10 percent, that is, from \$7.58 to \$8.33 an acre, to compensate the landlord for undertaking to bear his share of the risk arising from fluctuating prices. It was on this assumption that schedules A to H in table IV and the one shown in the model lease were constructed.

### WHAT ARE SOME OF THE MAIN ADVANTAGES OF A PLAN WHICH PROVIDES FOR A SLIDING-SCALE CASH RENTAL?

#### Tenants Pay Rent in Proportion to the Prices of Their Products

When a tenant rents a farm he does so for the income he can get from it plus the additional fact that, if it is improved, it affords shelter for himself and family. The income will be dependent upon the prices which he gets from his products. The rent, therefore, ought to be closely related to the prices of farm products.

In the case of the crop-share lease, so widely used in Iowa, the relationship between the amount of rent paid and the prices of farm products is very close. Where the crop-share lease is used the landlord gets a fixed share of the crop. If his share happens to sell for a good price, he gets a good rental; if the crop sells for a low price, he gets a low rental.

That the landlord's rent, under the crop-share system is very closely related to the prices of farm products is shown by the following example. If on a typical 160-acre farm a landlord obtained as his share of the rent from his crop land in 1929, 1,100 bushels of corn and 500 bushels of oats, he received on the basis of 1929 prices about \$781 for his corn and \$195 for his oats. On the basis of 1931 prices this same landlord would have received for his 1,100 bushels of corn about \$484 and for the 500 bushels of oats around \$105. Assuming that these returns were obtained from 120 acres of crop land the total rent in 1929 would have amounted to about \$8.13 an acre and in 1931 to about \$4.91, which is approximately the rent he would have obtained if he had used the sliding-scale cash rent plan.

### **The Cash Lease Tends to Encourage Livestock Production**

Studies made at Iowa State College indicate that where a cash lease is used more livestock is raised than where the crop-share plan is followed. Under the crop-share lease the landlord's share of the grain is almost invariably sold off the farm. Landlords ordinarily get two-fifths to one-half of the grain raised. The result is that practically half of the grain leaves the farm, whereas, under the cash lease it might remain to be fed to livestock. In some cases tenants renting under the crop-share lease have made arrangements with their landlords for the purchase of the latter's share of the crop, but such arrangements have not been very generally adopted nor have they very often worked out successfully.

There is a rather general belief that farmers who raise some livestock fare better financially than those who rely entirely on the sale of cash grain crops. If the income is to be satisfactory on the small farm (from 80 to 140 acres), it is almost imperative that crop-raising be supplemented by livestock production. A proper combination of crops and livestock gives the operator of the small farm year-round employment, which would not be the case were he to rely solely upon crop production. It is plain, therefore, that the cash lease has certain advantages, especially where the tenant wishes to engage in livestock production, and anything that will make it more attractive should be put into practice. We consider the adoption of the sliding-scale plan of cash renting one method of making the cash lease more generally attractive. And when we consider that under the plan the landlord gets about the same returns that he would with an average crop under the grain-share lease, it would seem to be equitable from his point of view also.

### **Under the Cash Lease Landlords Do Not Have to Bother With the Disposal of a Share of the Crop as They Do Under the Crop-Share Lease**

To many landlords one of the main advantages of the cash lease has been that they have not had to concern themselves with the marketing of a share of the grain. After all, a landlord is interested mainly in the income from his farm, and that income is measured eventually in dollars and cents. Under the cash lease he is assured of a specified cash income. Of course, where the rental has been greatly out of line with the prices of farm products, as it was in 1921 and 1922 and as it has been during the past two years, he has seldom been able to collect the full amount agreed upon. If he had been renting under the sliding-scale cash lease, however, there probably

would have been little difficulty in collecting his rent for, being in proportion to the prices the tenant received for his products, it would not have been excessive. Many landlords have used the cash lease partly because it made it possible for them to avoid the bother of dividing the grain and storing and selling their share. The sliding-scale plan should appeal especially to them for they get the advantages of the crop-share lease without having to concern themselves with the problems involved in storage and marketing a share of the crop. This feature of the plan should appeal particularly to landlords living at considerable distance from their farm. To those financial institutions holding large numbers of farms, it should be particularly useful since it would eliminate a large part of the administrative difficulties now involved in collecting their share of the crop in those cases where the crop-share lease is used.

### WHAT ARE THE DISADVANTAGES CONNECTED WITH THE USE OF THE SLIDING-SCALE CASH RENT PLAN?

Thus far we have dwelt upon the advantages connected with renting under a plan of basing the rent on the prices of farm products. But are there not some disadvantages also? The objections raised against the plan described above group themselves under four heads:

- a. The plan is too complex.
- b. Account should also be taken of the variation in yields as well as of prices.
- c. The rent should be based on the type of farming followed on a particular farm.
- d. The rent should be based upon the prices received during the latter part of the lease year rather than on the whole year.

Let us take these criticisms up one by one and see whether they are really very important.

#### Is the Plan Too Complex?

Although we have gone to considerable length in explaining the plan, the plan itself is in reality very simple. It merely involves adding up 11 figures (the index numbers for March around to the following January), dividing the sum by 11 to get the average index for the lease-year and then referring to one of the schedules A to H or the schedule shown in the model lease for the corresponding rental. These 11 figures are published monthly in *Agricultural Economic Facts*, the monthly pamphlet referred to previously. Furthermore, the Department of Agricultural Economics of Iowa State College will



strike an average of the index numbers for these 11 months and publish it each year in Agricultural Economic Facts for the benefit of those who adopt the plan and for others who may be interested in it.

One of the difficulties involved in determining the amount of rent under any plan of leasing is that of deciding as to how much better or poorer the farm in question is than the general run of farms in the neighborhood. Table V (page 203) will help in deciding upon whether the farm should rent for 10, 20, 30 or 40 percent above or below the state average. Whether the farm in question is above or below the general run of farms in the county is a matter which must be agreed upon by tenant and landlord. And, as we have said above, this they do, whether or not they realize it, under any plan of renting.

#### **Should the Plan Take Into Account Variation in Yields as Well as Prices?**

Under any form of renting for cash, the tenant assumes the risk of crop failures. Because he bears this risk it is probably true that over a series of years he gets the farm for a smaller rental than he would under the grain or stock-share leases where the landlord bears a share of the risk of crop failure. Tenants have not objected so much to assuming the risk of crop failure as they have the risks involved in wide fluctuations of prices. The recent dissatisfaction and the dissatisfaction in 1922 and 1923 with the cash lease were not due to crop failure but to the failure to get the prices that were expected at the time the lease agreements were entered into. In view of the fact that in normal times cash-renting tenants have not objected seriously to assuming the risk of crop failure, it has not seemed desirable to include, as a part of the plan described above, a method of adjusting the cash rent on the basis of crop yields.

In fact one of the great advantages of the cash lease, for superior tenants, is that the additional yields they get by reason of their superior farming ability are theirs alone and do not have to be shared with their landlords as they would under the crop-share lease. To adjust the rent according to crop yields would work a hardship on these superior tenants, using the cash lease, if they were forced to share with the landlords the greater income resulting from their superior ability.

Furthermore, our data covering crop yields, particularly on a given farm, are so inadequate that it would be impossible to work out at this time an acceptable plan of adjusting cash rent that would take into account the yields obtained. All that we had hoped to do was to develop a plan that would make both tenant and landlord secure, so far as violent fluctuations in prices are concerned; and if we have succeeded in

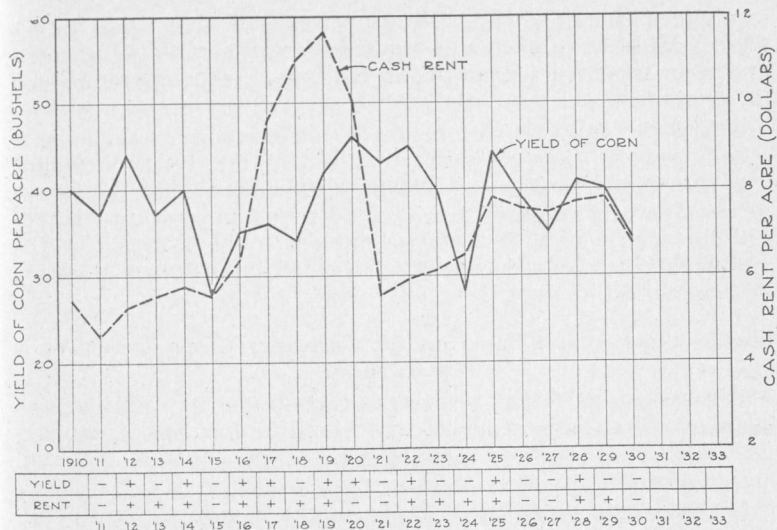


Fig. 2. A comparison of the yield of corn in Iowa with the cash rent that would have been required if the plan of adjusting cash rent to the prices of farm products had been used during the years, 1910-1930.

doing that, the main hazard involved in cash renting will have been eliminated.

But there is another criticism, having to do with the matter of yields, which has been raised against the sliding-scale plan of cash renting. It is said that since the rent under the proposed plan is based on the prices of farm products, and since the prices of farm products are likely to be high when the crop is short, the tenant is likely to find himself in a position requiring the payment of a high rental right at a time when his yields are below average and prices correspondingly high.

The best way to test the validity of this criticism is to determine what effect the variation in crop yields would have had in the past on the amount of cash rent required under the sliding-scale plan.

Since corn is the major crop in Iowa and, largely, the one around which the other farm enterprises are built, let us compare its average annual yield with the cash rent that would have been required under the plan. An examination of fig. 2 (see above) shows that when a given year is compared with the year immediately preceding, there were 11 years in which the crop yields were lower, and in only 5 of these 11 years would a higher rental have been required under the sliding-scale plan. Likewise, there were nine years when the yields were higher as compared with the years immediately preceding and



in eight of them the price situation was such that these higher yields would have been accompanied by higher rents. In only one case would a higher yield have been accompanied by a lower rental.

A similar analysis was made for oats and the relationship there between yield and rent required under the sliding-scale was also found to be insignificant. The fact is that the prices received in a given area are affected by so many complex conditions, many of them even of international scope, that the yields obtained locally cannot have much influence on the final determination of the price.

#### **Should the Rent Be Based on the Particular Crops Grown on a Given Farm?**

It has been said that a given tenant should pay rent on the basis of the specific crops and livestock he has raised and not on the basis of what farmers in general have raised. For example, if a tenant were specializing in poultry and it happened that poultry prices were high, he ought to pay a correspondingly high rental. Our answer is that if the landlord gets a rental that is based on the general type of farming commonly carried on in the region, that is as much as he can expect, and further, that is as much as he is entitled to.

When a tenant rents a farm he competes with other tenants for it, and, other things being equal, the one who will pay the highest rental is the one who gets the farm. It is likely that those with whom he is competing for the use of the farm would follow the type of farming which is more or less generally followed in that particular area. That being the case, the competitive rental will be in line with the returns that are obtained from the type of farming operations characteristic of the area.

If the tenant should raise certain special crops or livestock that turned out to be particularly profitable, the returns should go to him as a reward for his foresight. And, if he has paid as much in the way of a rental as the landlord could have obtained from others who would have liked to rent the farm, that is as much as the latter can legitimately expect.

#### **Ought the Rent Not to Be Based on the Prices Prevailing During the Latter Part of the Lease-Period Rather Than Upon the Whole Year?**

The answer to this question will depend partly upon the kind of farming carried on. Where there is some dairying and where the practice is followed of raising "fall" as well as "spring" pigs, the income will be more uniform from month to month than where the income is obtained entirely from the

sale of cash-grain crops. In the former case it would seem distinctly better to let the rent be based upon the average of the prices for the whole year. Where only spring pigs are raised and the income is almost entirely from that source, or where the income is almost entirely from the sale of cash grain crops, it might be preferable to base the rent entirely on the prices prevailing during the latter part of the lease-period.

Here, again, we must not be guided too much by the practices on a given farm. If the common practice in the region is to do some dairying, to raise a few fall pigs as well as spring pigs and to keep poultry, then the rent should be based on this practice rather than on what a given tenant may wish to do. He will have been competing for the use of the farm against tenants who, for the most part, would have been following the practices commonly followed in the region. The method for calculating the rent that he will have to adopt will depend, then, not upon the kind of farming he may especially want to carry on, but upon the practices characteristic of the region.

We should say that in a region where a considerable amount of livestock is raised, the rent should be based upon the prices for the whole year. In those regions where the farm income is almost entirely from the sale of grain, it might be better to base the rent on the index of prices for the months of September, October, November, December and January. The following illustration shows how this may be done where the lease ran from March 1, 1931, to March 1, 1932. If we refer to table III (page 200) we see that the index numbers for these months were as follows:

September	78	Average = $\frac{358}{5} = 72$ = Average index number for September to Jan- uary, inclusive.
October	73	
November	77	
December	67	
January	63	
Sum = 358		

Now instead of averaging the entire 11 months as we did in the first example (see page 199), we simply average the five months in this case. To do this, we merely add together the five index numbers and divide the sum (358) by 5, which gives approximately 72 as the average index for the five-month period and then turn to the rent schedule to find the rental corresponding to an index number of 72.

## CONCLUSION

The sliding-scale plan as described in this bulletin is intended to secure for landlords, in a period of depression, the benefits of any rise in the prices of farm products that may occur and, at the same time assure tenants that the rents they may be required to pay will not be far out of line with the market value of their year's efforts.

But a plan of this kind is not only useful in times of adversity. It may as well be used also in periods when prices are more stable. If one examines again fig. 1 (page 208) he will observe, however, that in the past 22 years there were only five years (1914, 1926, 1927, 1928, 1929) when the prices were on substantially the same level as in the year preceding. If the plan had been in use during the war years landlords would have shared fully with their tenants in the rising prices. And if the plan had been in use on Iowa farms in the years immediately following the war and during the past two years the rentals would have been in line with what tenants could have afforded to pay. Perhaps if a given tenant had been on a given farm both before and after the war the inequalities of those two periods might have about offset each other. But with the frequent migration from farm to farm, so characteristic of this region, it is probable that only a relatively few farms were operated by the same tenants both before and after the war.

The plan is also intended to make the relationships between landlord and tenant more harmonious than they are likely to be under a system of fixed rentals where either the one or the other is almost certain to get the better end of the deal. Where the rentals are not in line with prices it is difficult to maintain the friendliest of feelings. In fact, in many cases, the situation leads to open hostility.

Now with the prospect in view that for the next 25 years over half the farm land in Iowa, or an area something over 17 million acres, is almost certain to be operated by tenants it is imperative that everything possible be done to make certain that the rentals are equitable for all concerned. This will reflect itself in relationships between landlords and tenants that are harmonious and will doubtless lead to more permanency in tenure, and to improvement of farm practices. In the end it is expected that under a system of tenantry we may still reap a large portion of the advantages that are thought to come only with outright ownership.

### SLIDING-SCALE LEASE IS BEING ADOPTED

This bulletin is a revision of another published earlier in the year under the same title in mimeographed form and which has been distributed widely. From various sections of the state it is reported that leases are being drawn up on the sliding-scale plan. The plan is practicable and will work satisfactorily if given a trial. While suggestions have been made for guidance in selecting a schedule of rentals it must not be supposed that there is any automatic method for choosing the correct schedule. Formerly, when landlord and tenant were discussing rental terms it was a question of price per acre. Under the sliding-scale plan it is a matter of bargaining in terms of schedules. The tenant may wish to use schedule A whereas the landlord may think schedule B would be the one to use. After a certain amount of discussion, which may be continued off and on for several days, the two parties will finally reach agreement on one or the other of the schedules, or they may decide to compromise on a new schedule of their own with payments just exactly half way between those called for in schedules A and B. The point is that even with the sliding-scale plan a certain amount of discussion and bargaining is required, and out of their negotiations the tenant and landlord will finally choose a schedule that will work out to the best interests of both.

Copies of the lease form shown on page 195 can be had by writing to the Extension Service, Iowa State College, Ames, Iowa.